

Chapter 3. PILOT BRIEFING

Section 1. GENERAL

3-1-1. DEFINITION

Pilot weather briefings are defined as "The translation of weather observations and forecasts, including surface, upper air, radar, satellite, and pilot reports into a form directly usable by the pilot or flight supervisory personnel to formulate plans and make decisions for the safe and efficient operation of aircraft." These briefings shall also include information on NOTAM's, flow control, and other items as requested.

3-1-2. PREDUTY REQUIREMENTS

Before assuming pilot briefing duties, familiarize yourself sufficiently with aeronautical and meteorological conditions to effectively provide briefing service. This includes:

- a. General locations of weather causing systems and general weather conditions for the entire contiguous United States and/or other briefing areas, as appropriate; e.g., Alaska, Hawaii, Mexico, Canada, Puerto Rico.
- b. Detailed information of current and forecast weather conditions for the geographical area deemed significant by the facility air traffic manager.
- c. Other pertinent items; e.g., NOTAM's, MTR/MOA activity.

REFERENCE-

Accomplish this in accordance with Para 1-3-3 and pertinent facility directives.

3-1-3. PREFLIGHT BRIEFING DISPLAY

Provide a preflight briefing display for specialist/pilot use. The contents and method of display shall be based on individual facility requirements; e.g., available equipment, space. Additional displays, as required, shall be provided to ensure availability of information at all inflight and preflight positions. At the discretion of facility management, provide a separate display for pilot use. All material in such displays shall be kept updated.

REFERENCE-

Enhance facsimile charts in accordance with Para 3-1-4.

3-1-4. WEATHER DISPLAY PRODUCTS

a. The weather graphic display should include, but not necessarily be limited to, the following analysis, prognosis, and data products:

1. Weather Depiction.
2. Surface Analysis.
3. Forecast Winds Aloft.
4. Current Winds Aloft.
5. National Radar Summary.
6. 850 MB.
7. 700 MB.
8. 500 MB.
9. 300 MB.
10. 200 MB.
11. Composite Moisture Stability Chart (Lifted Index, Precipitable Water, Freezing Level-Mean Relative Humidity).
12. 12- and 24-hour low level significant weather prognosis.
13. High level significant weather prognosis.
14. 36- and 48-hour surface prognosis.

NOTE-

Because of presentation limitations and techniques, some interim system products may not take on the same appearance as conventional facsimile products. During the transition into a national graphic weather display system (GWDS) program, some flexibility of product display, format, and content may be authorized.

b. The utility of charts is greatly enhanced by coloring and shading. Use the symbols and colors shown in subparas 3d and e, on all weather chart displays. Facsimile products used for closed circuit television (CCTV) may be highlighted to accentuate the displays. In addition, to allow for the greatest contrast between shaded areas and symbology, different colors may be required to enhance color weather graphic systems.

- c. Map features. (See FIG 3-1-1.)
- d. Precipitation and obstruction to vision. (See FIG 3-1-2.)

MAP FEATURES CHART

TYPE	SYMBOL	COLOR
Cold front		Blue
Warm front		Red
Occluded front		Purple
Stationary front		Red and blue
Instability line		Purple
Convergence line		Green
Trough		Brown
Ridge		Yellow
Low pressure center		Red
High pressure center		Blue
Jet streams		Black
Isotherms		Red
Isotachs		Yellow
Freezing level aloft	80- - - -80	Red
IFR conditions		Red
MVFR conditions		Blue
Line of echoes		Red
Overcast Clouds (36-48 hour Prog only)		Orange
Area of echoes		Green
Severe Weather area		Red
Turbulence areas		Red
Precipitation areas		Green
Icing symbols		Red
Turbulence symbols		Red

FIG 3-1-1

PRECIPITATION AND OBSTRUCTION TO VISION CHART

Type	Symbol	Color
Freezing precipitation		red
Snow		green
Rain		green
Drizzle		green
Thunderstorm		red
Fog		yellow
Haze		yellow
Smoke		black
Dust		brown

FIG 3-1-2

e. The facsimile products which cannot be displayed shall be retained for specialist/pilot use.

f. Interpret and summarize weather radar video displays and issue pertinent information on observed/reported weather areas.

1. Use all available radar data and PIREP's to determine intensity, tops, area of coverage, movement, etc.

REFERENCE-
Pilot/Controller Glossary, Radar Weather Echo Intensity Levels.

2. Identify data obtained from sources other than radar video display by source and time of observation.

3. To the extent possible, define area of coverage in relation to VOR's or airways for the route structure being flown. Airports or geographic points may be used to assist the pilot in relating coverage to route of flight or destination.

EXAMPLE-

"A broken line of weak to intense echoes covers an area along and three zero miles east of a line from the Crazy Woman V-O-R to the Riverton V-O-R. Average tops between two-six thousand and three-four thousand. This line is increasing in intensity. Movement has been from northwest to southeast at three zero knots. The line includes an intense echo one five miles in diameter on Victor Two Ninety-eight forty-eight miles southeast of the Worland V-O-R, tops four three thousand. There are no known echoes within three-zero nautical miles of Victor Eight-five or Victor Two Ninety-eight south at this time."

3-1-5. FORECASTS, WARNINGS, AND ADVISORIES

a. Use only weather forecasts, warnings, and advisories issued by an NWS office (including CWSU's), the U.S. military, foreign governments, or FAA owned or leased graphics systems.

b. Use the information in the Meteorological Impact Statement (MIS) for preflight briefings, background, and supplemental information only. The MIS is a traffic flow planning product and is not to be used as an integral part of a briefing presentation.

c. The OUTLOOK section of WST's includes meteorological discussion information. Extract pertinent forecast data concerning convective activity location, movement, and intensity for briefing purposes. Do not provide discussion type information unless requested by the pilot.

d. When an NWS forecast meets amendment criteria, request assistance from the appropriate NWS office.

3-1-6. UNAVAILABILITY OF DATA

Use all available means to obtain the data required to brief pilots to their destination. If a complete briefing cannot be provided due to circuit problems or missing data, inform the pilot of this fact. Brief to the extent possible. As appropriate, furnish the pilot with the telephone number of another AFSS/FSS, or advise the pilot of the time you expect the data to be available.

3-1-7. TYPE OF BRIEFING TO BE CONDUCTED

Provide the pilot with the type of briefing requested; i.e., standard, abbreviated, or outlook. When it is not clear initially which type briefing is desired, provide the first one or two items requested, and then ascertain if the pilot would like a standard briefing. If a standard briefing is requested, conduct the briefing in accordance with para 3-2-1. If the pilot does not desire a standard briefing, provide either an abbreviated briefing in accordance with para 3-2-2, or an outlook briefing, in accordance with para 3-2-3.

3-1-8. RECORDING PILOT BRIEFINGS

a. FSS. Use FAA Forms 7233-1, 7233-2, 7233-5, and 7230-21 for recording pilot briefings. Document the briefing by one of the following methods:

1. FAA Form 7233-2. Use a separate form each day. Two or more forms may be used simultaneously at different operating positions. Complete boxes 1 through 3 on each form. Enter appropriate data in columns 4, 5, 6, 7, 8 (if pertinent), and 9. The pilot's name may be substituted for the aircraft identification if unknown. As applicable, enter OTLK (outlook briefing), AB (abbreviated briefing), and/or VNR in column 8.

2. FAA Form 7233-1. Check the "pilot briefing" block, fill in specialist initials, and time started. As applicable, also enter AB, OTLK, and/or check the VNR block.

3. FAA Forms 7233-5/7230-21. Enter PB in block 14 if a briefing is provided. As applicable, also enter AB, OTLK, and/or VNR in the same block.

b. M1. Pilot briefings are logged and stored on the DD file for accountability. The required elements are: PB (DESTINATION), (ACID), REMARKS.

NOTE-

If current partial exists for the proposed flight, DESTINATION and ACID are optional.

EXAMPLE-

PB	Preflight Briefing logged using current partial.
PB DSM	Preflight Briefing logged bypassing destination in current partial.
PB ,,VNR	Preflight Briefing logged using current partial, with remarks added.
PB DSM,, VNR	Preflight Briefing logged bypassing destination in current partial, with remarks added.
PB DSM,N1,VNR	Preflight Briefing logged bypassing destination and ACID in current partial, with remarks added.

c. Where recorders are used, facility management may limit entries on pilot briefing records to those required for facility use.

d. Where fast-file recorders are used and the pilot states the source of a briefing on the recorder, it shall be entered in the remarks field of the flight plan.

EXAMPLE-

PB/DCA PB/DUATS

Section 2. PREFLIGHT PILOT BRIEFING

3-2-1. CONDUCT OF STANDARD BRIEFING

a. Brief by translating, interpreting, and summarizing available data for the intended flight. Do not read individual weather reports or forecasts unless, in your judgment, it is necessary to emphasize an important point or unless specifically requested to do so by the pilot. Obtain the following information if it is pertinent and not evident or already known:

1. Type of flight planned.
2. Aircraft identification or pilot's name.
3. Aircraft type.
4. Departure point.
5. Route of flight.
6. Destination.
7. Flight altitude(s).
8. ETD and ETE.

Pilot briefer shall issue the following cautionary advisory to a pilot planning a flight outside of United States controlled airspace, unless the pilot states "I have the international cautionary advisory."

PHRASEOLOGY-

CHECK DATA AS SOON AS PRACTICAL AFTER ENTERING FOREIGN AIRSPACE, AS OUR INTERNATIONAL DATA MAY BE INACCURATE OR INCOMPLETE.

b. Using all sources of weather and aeronautical information, provide the following data when it is applicable to the proposed flight. Provide items 1 through 8 above in the sequence listed except as noted.

1. **Adverse Conditions.** Include this element when meteorological or aeronautical conditions are reported or forecast that might influence the pilot to alter the proposed flight. Emphasize conditions that are particularly significant, such as low level wind shear, thunderstorms, reported icing, frontal zones along the route of flight, airport closures, air traffic delays, etc. Weather advisories (WS, WA, WST, CWA, and AWW) shall be given by stating the type of advisory followed by the pertinent information.

EXAMPLE-

"An AIRMET is in effect until 1400 for possible moderate turbulence below 10,000 feet over the mountainous area of southern California."

2. **VFR Flight Not Recommended (VNR).** Include this statement when VFR flight is proposed and sky conditions or visibilities are present or forecast, surface or aloft, that in your judgment would make flight under visual flight rules doubtful. Describe the conditions, affected locations, and times.

EXAMPLE-

"There are broken clouds along the entire route between niner and one one thousand feet at the present time. With the approach of a cold front, these clouds are forecast to become overcast and to lower to below seven thousand with mountains and passes becoming obscured. V-F-R flight is not recommended between Salt Lake City and Grand Junction after two two zero zero ZULU."

"V-F-R flight is not recommended in the Seattle area until early afternoon. The current weather at Seattle is indefinite ceiling three hundred sky obscured, visibility one, mist, and little improvement is expected before one eight zero zero ZULU."

NOTE-

This recommendation is advisory in nature. The decision as to whether the flight can be conducted safely rests solely with the pilot.

3. **Synopsis.** Provide a brief statement describing the type, location, and movement of weather systems and/or air masses which might affect the proposed flight. This element may be combined with adverse conditions and/or the VNR element, in any order, when it will help to more clearly describe conditions.

4. **Current Conditions.** Summarize from all available sources reported weather conditions applicable to the flight. This element may be omitted if the proposed time of departure is beyond 2 hours unless the information is requested by the pilot.

NOTE-

1. If the surface meteorological observation originates from an automated observation facility and is presented as a singular report, follow the location announcement with the phrase "AUTOMATED."

2. The briefer should provide sufficient automated surface observation information when requested by the pilot or when deemed pertinent to the briefing.

5. **En Route Forecast.** Summarize from appropriate data (Area Forecast) TAF's, prognosis charts, weather advisories, etc., forecast conditions applicable to the proposed flight. Provide the information in a logical order; i.e., climb out, en route, and descent.

6. Destination Forecast. Provide the destination forecast including significant changes expected within 1 hour before and after the ETA.

7. Winds Aloft. Provide forecast winds aloft for the proposed route using degrees of the compass. Interpolate wind directions and speeds between levels and stations as necessary. Provide temperature information on request.

8. Notices to Airmen (NOTAM's).

(a) Provide available NOTAM (L) (flight plan area only) and NOTAM (D) information pertinent to the flight.

(b) For M1FC facilities, provide Flight Data Center (FDC) NOTAM's which are pertinent to the proposed flight and are not already carried in the Notices to Airmen publication.

(c) For facilities without M1FC, provide FDC NOTAM's within 400 NM radius of your facility which are pertinent to the proposed flight and are not already carried in the Notices to Airmen publication.

NOTE-

If approved by the ATD, the area may be adjusted to meet user requirements.

(d) Combine this element with current conditions when it would be logical and advantageous to do so.

9. ATC Delays. Inform the pilot of any known ATC delays and/or any flow control advisories on hand that might affect the proposed flight.

10. Request for PIREP's. Include this element when, in your judgment, a report of actual inflight conditions is beneficial or when conditions meet criteria for solicitation of PIREP's (para 9-2-5). Advise the pilot to contact Flight Watch or Flight Service to report en route conditions.

11. EFAS. When appropriate, inform pilots of the availability of Flight Watch for weather updates; e.g., thunderstorms, icing.

12. Upon request.

(a) Provide information on military training routes (MTR) and military operations area (MOA) activity within your flight plan area plus an additional 100 NM extension. For briefings beyond the above stated area, advise the pilot that information may be incomplete and to contact other en route facilities for additional information.

NOTE-

AFSS's shall consider their flight plan area as that geographical area which encompasses all FSS's to be consolidated into that facility.

(b) Review the appropriate aeronautical publications and inform the pilot of pertinent NOTAM's and special notices.

(c) Provide approximate density altitude data.

(d) Provide information regarding such items as air traffic service and rules, customs/immigration procedures, ADIZ rules, SAR, Flight Watch, etc.

(e) Provide LORAN C NOTAM's.

REFERENCE-

FAAO 7930.2, Para 5-3-7c.

(f) Provide military NOTAM's.

REFERENCE-

FAAO 7930.2, Para 8-3-1.

(g) Provide runway friction measurement value NOTAM's.

PHRASEOLOGY-

WASHINGTON NATIONAL RUNWAY ONE EIGHT MU FORTY, FORTY, TWENTY-EIGHT.

(h) Provide GPS Receiver Autonomous Integrity Monitoring (RAIM) Aeronautical Information. RAIM information shall be provided 1-hour before to 1-hour after the ETA, or a time frame requested by the pilot.

3-2-2. CONDUCT OF ABBREVIATED BRIEFING

Provide an abbreviated briefing when a pilot requests information to supplement mass disseminated data; update a previous briefing; or when the pilot requests that the briefing be limited to specific information. Pilot briefers shall issue the following cautionary advisory to a pilots planning a flight outside of United States controlled airspace, unless the pilot states "I have the international cautionary advisory":

PHRASEOLOGY-

CHECK DATA AS SOON AS PRACTICAL AFTER ENTERING FOREIGN AIRSPACE, AS OUR INTERNATIONAL DATA MAY BE INACCURATE OR INCOMPLETE.

Conduct abbreviated briefings as follows:

a. When a pilot desires specific information only, provide the requested information. If adverse conditions are reported or forecast, advise the pilot of this fact. Provide details on these conditions in accordance with subpara 3-2-1b1, at the pilot's request.

b. When a pilot requests an update to a previous briefing, obtain from the pilot the time the briefing was received and necessary background information. To the extent possible, limit the briefing to appreciable changes in meteorological and aeronautical conditions since the previous briefing.

c. When a pilot requests information to supplement data obtained through AFSS/FSS mass dissemination media, obtain pertinent background information, the specific items required by the pilot, and provide the information in the sequence listed in subpara 3-2-1b.

d. Solicit PIREP's in accordance with subpara 3-2-1b10.

e. When a pilot requests to file a flight plan only, ask if he/she requires the latest information on adverse conditions along the route of flight. If he/she responds "yes":

1. Provide information on adverse conditions pertinent to the intended route of flight.

2. Provide details on these conditions in accordance with subpara 3-2-1b1.

3-2-3. CONDUCT OF OUTLOOK BRIEFING

a. Provide an outlook briefing when the proposed departure is 6 hours or more from the time of the briefing. Conduct the briefing in accordance with subpara 3-2-1b, but limit the briefing to forecast data applicable to the proposed flight. Omit items 2, 4, and 7 through 11 unless specifically requested by the pilot or deemed pertinent by the briefer.

b. When the proposed flight is scheduled to be conducted beyond the valid time of the available forecast material, provide a general outlook and then advise the pilot when complete forecast data will be available for the proposed flight. Upon request transfer the call to, or furnish the telephone number of the appropriate NWS office.